Revitalizing Recycling in Washington

Recommendations of the Recycling Assessment Panel

February 2000

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Our Assignment: Mission and Goals of the Recycling Assessment Panel

The State of Washington established early leadership in solid waste reduction and recycling, triggered by the Waste Not Washington Act of 1989 (ESHB 1671). The top priorities for our state were established as waste reduction and recycling of source-separated materials. The law also set a goal of recycling 50 percent of the municipal solid waste stream by 1995. Significant public and private resources have been invested in the recycling infrastructure statewide, and the recycling rate has increased year-to-year. It reached a high of 39 percent in 1996, but dropped suddenly to 32.4 percent the following year. Washington is seen as a leader nationally in this field, and the falling rate concerned people and organizations with a stake in recycling's success.

Reasons for the drop are myriad. Increased waste generation, poor Pacific Rim markets, a drop in recycling participation by waste generators, and lost funding for education and awareness programs, all appear to contribute to reductions in recycling success. Yet the problem is not simple — some sectors are achieving the goals, while others are not. There are questions about the completeness and accuracy of the information, bringing into question the reporting methods and tracking approach. Residential recycling has reached new highs, but commercial recycling rates dropped the most, raising issues about building and maintaining sustainable markets for recyclables. Finally, the 50 percent recycling goal does not reflect the other high priority for Washington — waste reduction.

Solving the Problem

The Recycling Assessment Panel was convened by the Department of Ecology in September 1999 to assess the causes of the problem, and to identify, examine, and recommend actions to increase recycling. The panel recognized as a basic tenet that recycling is an important tool that can contribute to increasing and maintaining the overall quality of our environment, and maintaining a sustainable society. Various aspects of recycling can contribute to improved water quality, soil health, and fisheries habitat through beneficial use of resources, pollution prevention, and water conservation — all critical elements of maintaining Washington's quality of life, environment, and economic vitality. The panel worked hard over a four-month period to identify specific, workable recommendations to increase source reduction, amount and types of recycling, and available markets for recycled materials. Their recommendations are intended to form a foundation for longer-term actions to increase sustainable recycling efforts in Washington.

Members brought to the table their knowledge, issues, and willingness to work together on creative solutions that addressed their diverse interests. They heard presentations from experts in all aspects of recycling, and debated the pros and cons of different approaches to resolving identified problems. Several common themes arose in their deliberations:

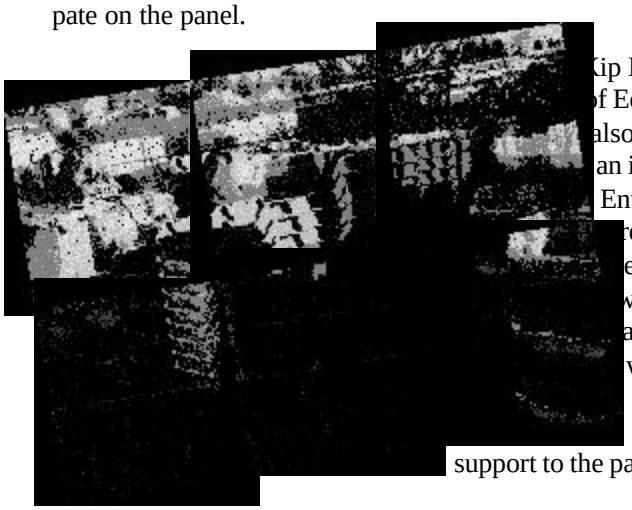
- Recycling success is critical to the overall environmental sustainability of our state, and contributes directly to solving other critical issues such as water quality, salmon recovery, and air quality.
- Remarkable investments have been made in recycling to date; those investments can be reinvigorated and leveraged to rebuild and maintain momentum toward aggressive goals.

- Opportunities exist to expand traditional thinking about materials to be recycled, and to look more broadly than traditional solid waste streams at areas and disciplines (agriculture, water quality) in which even more progress can be made.
- Collaborative approaches involving industry, government, and citizens are the only way to maximize the effectiveness of recycling efforts. We must all work together to implement a comprehensive waste reduction and recycling system, to the benefit of all Washington's citizens.
- Solid waste is uniquely important as a bridge between citizens and environmental stewardship. Most of our wastes are not actively managed by citizens, creating a disconnect. Solid wastes, on the other hand, are actively managed. Garbage is put under the sink -- then into cans -- whether into recycling bins or the garbage receptacle. This active management gives each of us a stronger link to the impacts of our daily lives.

During the panel's deliberations, the passage of Initiative 695, a citizen-sponsored initiative that repealed the state's motor vehicle excise tax and significantly reduced the amount of resources available for state spending, ignited significant debate among members. A great deal of effort was made by panel members to examine carefully each of the recommendations being developed to determine where private-public resources could be maximized, state resources could be reprioritized, or where no funding would be required. Each of the recommendations contains information on what funding and resources would be required for implementation. The panel deliberated and carefully chose to move forward only those recommendations that would have the most significant impact on the state's recycling rate.

How We Operated: Panel Composition and Operating Procedures

The Recycling Assessment Panel was convened by Ecology in September 1999 and included representatives of local government, industry, recyclers, citizens, state government, and the Legislature. Groups were invited based on the pertinent information they could share with other panel members and the interests of each of the constituencies. Based on organizational nominations, recommended individuals were invited to participate on the panel.



Kip Eagles, Darlene Frye, and Don Seeberger, of Ecology, provided staff support. Ecology also selected through a competitive process an independent facilitation contractor. EnviroIssues supported the group through preparing for and facilitating meetings, developing needed background materials, working with members to resolve issues, and documenting panel deliberations and work products. Cunningham Environmental Consulting was a subconsultant to EnviroIssues and provided technical support to the panel.

The facilitation team conducted interviews with panel members, both in-person and via telephone, to develop an understanding of the members' understanding of issues relating to recycling, their organization's goals and interests in the panel's outcome, and input to the panel's structure and process. The results of these interviews were used to focus the panel's discussions on those issues of interest to a majority of panel members and understand what knowledge brought to the table by panel members could be used to inform the discussion.

The panel met six times between September and December 1999. Meetings were held primarily in the SeaTac Airport area. General groundrules were agreed to by the panel at its first meeting and included working collaboratively to understand other members' viewpoints; using interim discussions and agreements to build toward consensus on a complete package of recommendations; considering everyone's perspectives when defining consensus; and communicating with each other and the facilitation team.

The panel developed its recommendations through an iterative process. Panel members and outside experts were used to educate the panel about the history of a particular topic and what efforts were currently ongoing. Following the full panel meeting, a self-selected group of interested members would gather to further discuss the topic and draft potential recommendations. Draft recommendations were then brought to the full panel for review and feedback, with the small group often meeting again to incorporate comments. All proposed recommendations were considered draft until the final meeting at which the panel discussed the full set of recommendations and agreed to them as a complete package.

Jan Allen, CH2M Hill
Bill Anderson, Business and Industry Recycling Venture
Tim Attebery, Washington Food Industry
Jennifer Bagby, City of Seattle
Lynne Barker, Sellen Construction
Brian Carlson, Clark County
Gene Eckhardt, Washington Utilities and Transportation Commission
Senator Tracey Eide, Washington State Senate
Jeff Gaisford, King County
Pete Grogan, Weyerhaeuser
Don Kneass, Washington State Recycling Association
Jessie Lang, Spokane Regional Solid Waste System
Representative Kelli Linville, Washington House of Representatives
Penny Mabie, City of Olympia
Nancy Malaret, Washington Citizens for Resource Conservation
Dave Michener, Washington Soft Drink Asociation
Fred Miller, Tri Vitro Corporation
Susan Robinson, Waste Management, Inc.
Amy Scharnowske, Whitman County
Jim Sells, Washington Refuse and Recycling Association
Cullen Stephenson, Washington Department of Ecology
Senator Dan Swecker, Washington State Senate
Lois Young, Skagit River Steel and Recycling
Loretta Zammarchi, Yakima County

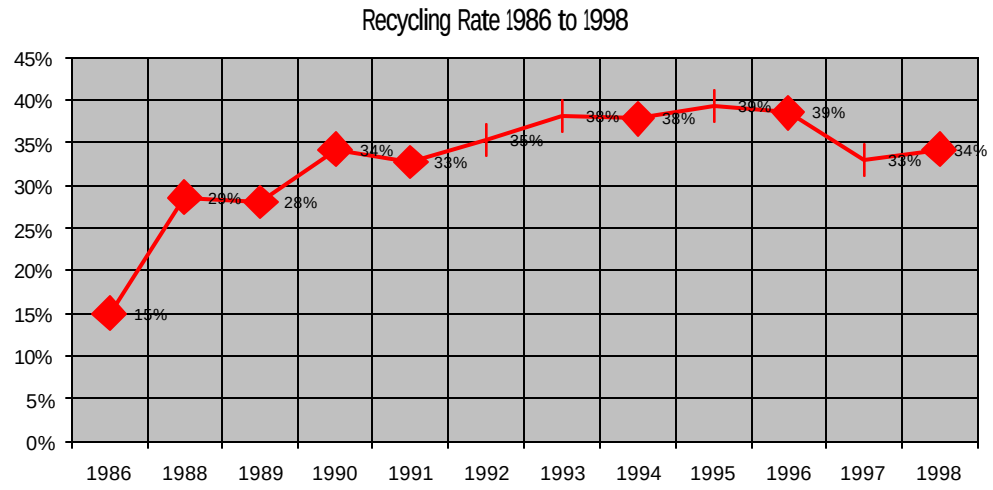
Waste Not Washington Act

In 1989, the Waste Not Washington Act was passed, which set priorities for solid waste management in the state, including: waste reduction; recycling of source-separated materials; incineration, energy recovery or landfilling of source-separated solid wastes; and incineration, energy recovery, or landfilling of mixed wastes. Within the recycling priority, the state set a 50 percent goal by 1995. The Act also required local jurisdictions to create solid waste management plans that would implement curbside collection in urban areas and drop box recycling in rural areas. To assist in updating solid waste management plans, Ecology was authorized to provide grant funds to local governments. Also, Ecology was directed to develop a waste characterization plan, study problem wastes, and develop a state solid waste management plan. The Waste Not Washington Act also created a funding source -- the Solid Waste Management Account. Funds from this account were used successfully to establish recycling infrastructure in the state. As planned, the account was terminated after the initial recycling successes.

Recycling Trends

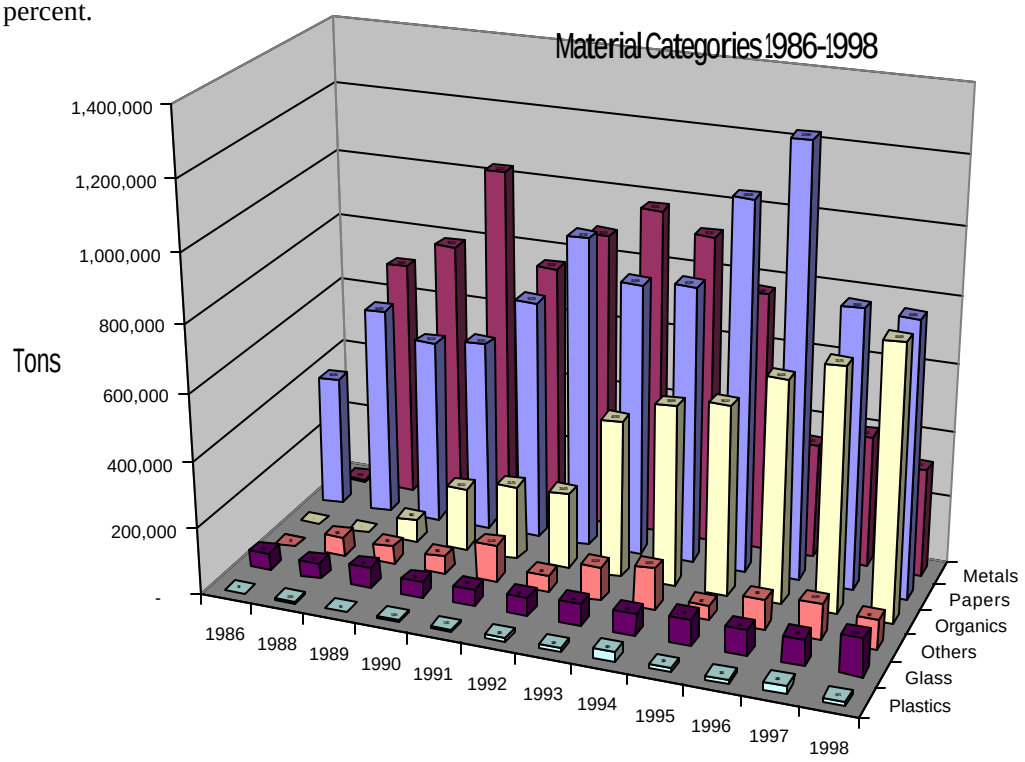
Significant public and private resources have been invested in the recycling infrastructure statewide, and the recycling rate has increased year-to-year. The state's annual recycling survey collects information from local governments, haulers, recyclers, brokers, and other handlers of recyclable materials on portions of the municipal solid waste stream that are being recycled. Items that are tracked in the survey include newspaper, corrugated paper, aluminum cans, glass, vehicle batteries, tires, yard waste, wood waste, and food waste.

In 1987, the recycling rate was 23 percent. The recycling rate reached a high of 39 percent in 1996, but dropped suddenly to 32.4 percent the following year. Many believe the most apparent reasons for the drop were a poor paper fiber market in Asia and a continued glut in the metals market. In 1998, the recycling rate increased slightly to 34.1 percent as the markets improved slightly. Also of concern is the increasing state's population, because many residents have moved into the state and may not place as much importance on recycling as those who were present during past statewide education campaigns. While the state's recycling rate has not dramatically increased, it is encouraging to note that the total amount of materials being disposed in landfills has not increased.



Commodities Being Recycled

In 1998, the State's recycling survey showed a wide range of commodities being recycled – from newspaper to tin cans and from tires to yard waste. Yard waste was the commodity with the highest recycling rate, comprising approximately 600,000 of the 2 million tons recycled. This was a dramatic increase from 1996 and 1997 when approximately 380,000 tons of yard waste were recycled out of a total 2 million tons recycled. Other highly recycled commodities included corrugated paper, newspaper, mixed waste paper, and ferrous metals. The amount of corrugated paper being recycled has decreased by approximately 50 percent.



Description of Recycling Activities -- Public and Private

A group made up of truly multiple interests is undertaking recycling and waste reduction activities in Washington. From major construction firms to family-owned recycling companies, from state government to environmental interest groups, and from rural counties to major metropolitan areas – everyone has, and continues to have, an important part to play in making recycling a success.

Beginning in the late 1980s, Ecology took the lead on implementing the Waste Not Washington Act and began a series of statewide public education campaigns. This effort served to make recycling a household activity and raised the public's awareness about what they were putting in landfills. In 1991, the state increased its effort by creating the Clean Washington Center in an attempt to increase markets for recycled materials.

However, in 1995 the state reevaluated its approach to recycling by forming the Future of Recycling Task Force. Many of the participants, over 70 public and private entities, felt that the state needed to continue and expand its leadership role in recycling and that increased cooperation between the public and private sectors as well as strong markets would help make recycling a sustainable effort. However, the 1996 Legislative Session saw little support for increasing the state's recycling efforts and many programs, including the Clean Washington Center, were no longer funded.

Since 1995, much of the progress made in recycling has been through efforts of individual public and private entities. The Washington State Recycling Association has made a major effort to bring together members of industry and government to focus on arising issues, such as how to increase recycling of construction, demolition, and land-clearing materials. Local governments continue to promote waste reduction and recycling as an important part of the public schools' curricula and spend countless hours making presentations to students and educating teachers. Ecology has continued to provide information to the public and the private sector, such as through its 1-800-RECYCLE hotline, on what and where materials can be recycled. And the Washington Refuse and Recycling Association and its members continue to work with customers and local governments to better educate the public about how to recycle in their communities.

The panel spent its time learning about these efforts and others and its recommendations build on these and provide recommendations which will strengthen them, expand them to other entities as appropriate, and maximize the public-private partnerships that make any public effort a success.

What the Panel Learned -- Scope of Issues, Shared-Fact Finding

At its first meeting, the panel identified and prioritized key issues to be included in the work plan. These issues included:

- Market development – identify opportunities for increasing markets for recycled materials, focusing on building and maintaining sustainable markets
- Residential collection – review existing residential recycling programs to identify opportunities for enhancement and lessons learned to apply to other recycling programs
- Regulatory framework for recycling – examine the current regulatory framework for recycling collection and disposal and incentives for establishing effective and efficient recycling programs
- Commercial collection – examine ways to dramatically increase commercial recycling, including creation of incentives
- Data – review the current approach for collection data and information regarding recycling and identify potential areas of improvement, including reporting requirements and data availability
- Recycling goals – revisit the overall goals for recycling and ensure active management to reach the goals
- Public education – identify current and past public education efforts to determine effective ways to increase the awareness of and encourage recycling across the State
- Expanding recycling sectors – look at ways to expand the types of materials being recycled, including organics, agricultural waste, and construction materials

Increasing Commercial Recycling

Commercial recycling saw one of the biggest drops in the amount of materials being recycled in 1997. Unlike residential recycling, commercial recycling cannot be regulated by the Washington Utilities and Transportation Commission due to federal restrictions. Recycling by businesses is currently done on a voluntary basis.

Mandatory Commercial Recycling

The City of Portland has a mandatory 50% recycling program for businesses, multifamily complexes and construction projects. Businesses, industries, and apartment buildings generate about two thirds of the waste Portland sends to its regional landfill. All commercial customers must file a one-page recycling plan form and set up systems to collect and store recyclables. If a commercial customer does not file a form, City staff contact the customer and help the business set up a recycling system. Staff may also visit businesses to inspect recycling systems. Businesses that refuse to comply may be subject to a $500 fine.

The panel heard from a number of experts in the area of commercial recycling, including the Business and Industry Recycling Venture (BIRV), the City of Portland, local government, and private haulers. Ongoing efforts by these entities primarily focus on providing technical assistance to businesses on how to recycle, prevent waste, and where to buy recycled products. Information gathered, both in surveys and anecdotal, has shown that businesses recycle because it helps the environment and, most importantly, can save the business money; most programs have targeted their information to show businesses how to recycle in a way that is efficient

and cost-effective. For example, one local government program encourages businesses to recycle by offering awards and publicity through advertising.

Private haulers report that they are discouraged from attracting business customers because as market prices fluctuate, haulers are often faced with little or no profits. Also, the loss of local recycling coordinators throughout the state has lessened the ability of private haulers to make contacts with potential customers and encourage them to subscribe to recycling services.

Findings

- Barriers to increasing commercial recycling include regulatory limitations created by federal law, geography, availability of service, cost, convenience, and lack of information.
- A lot of small businesses already subscribe to the lowest cost garbage collection service possible. This reduces the economic incentive to recycle.
- Businesses are not being educated or encouraged to sign up for commercial recycling programs, either by private haulers or local government.
- Paper remains a major component of the waste stream being generated by businesses. This is due in part to low market prices for the commodity as well as lack of education.
- Potential suggestions to improve commercial recycling include a mandatory statewide program, raising business awareness of local service providers, and providing small businesses with recycling programs using existing residential programs.
- Partnerships between public and private entities provide the best chance for maximizing resources and support to increase commercial recycling.
- While it is not always cost-effective for small businesses to recycle, those types of business are where the most gain has yet to be realized.

The Panel's Recommendations: Increasing Commercial Recycling

One of the major reasons for the 1997 decrease in Washington's recycling rate was a decrease in commercial recycling, particularly involving paper. This decrease has been due to many factors, including reductions in funding available for local governments to provide technical assistance to businesses and declining market values for commercially-generated recyclable materials. Because commercial recycling is not a regulated service, the panel believes that the most appropriate way to stimulate recycling by businesses is through information and technical assistance. The panel recommends the following:

1. Recycling Industry Information Gathering

The panel recommends that a meeting or series of meetings be held to obtain information directly from representatives of recycling companies from throughout the state, regarding barriers they face in providing cost-effective recycling services to businesses and circumstances or incentives that might lead to improved services, especially for small businesses and in the recycling of fiber materials.

The panel believes that if reliable, convenient and affordable recycling services are available to businesses, the commercial recycling rate will increase. Practical ideas generated through the meeting(s) would be recommended for local implementation. The Washington State Recycling Association should take the lead in working with Ecology, the Washington Refuse and Recyclers Association, and local government representatives to organize the meeting(s).

2. Methods for Increasing Commercial Recycling

The panel recognizes that the viability of commercial recycling varies among local jurisdictions. Thus, it may be appropriate for local jurisdictions to encourage recycling through

different methods. The following are methods that are recommended to help local jurisdictions in their efforts to promote recycling by businesses:

- Encouraging local governments to aggressively pursue all means for diverting commercial recyclables from the waste stream, considering market conditions, by using local regulatory options.
- Creating partnerships between local government and chambers of commerce to provide technical assistance to businesses where commercial recycling is available. Such programs would ensure that businesses are aware of available recycling services and are educated regarding the importance and benefits of recycling.
- Using existing organizations, such as Washington State Recycling Association, Washington Refuse and Recycling Association, Washington Association of Cities, and Washington Association of Counties to encourage and promote commercial recycling throughout the state.
- Encouraging legislators to educate their local constituents, chambers of commerce, and businesses about the importance and benefits of commercial recycling.
- Requiring franchised garbage haulers to disseminate information about recycling opportunities, especially those for paper and cardboard, to their commercial customers.
- Providing direct economic incentives to commercial generators based on reducing the amount of recyclables being disposed.

3. Focus on Small Businesses

The panel recommends that more attention be directed toward increasing recycling by small businesses. The availability of recycling to small businesses is affected, in part, by market prices for recyclable materials. When prices for collected recyclable materials decline, the cost to businesses for recycling service usually increases. This makes recycling less attractive, particularly for small businesses. The availability of commercial recycling services also usually increases when demand is created through recycling education and technical assistance to businesses. The panel recommends that local governments, in partnership with service providers, work to provide increased technical assistance to small firms. This could be accomplished through reallocation of existing resources. Local governments should also explore, with their service providers, including small-business recycling services as part of their residential collection programs to improve efficiency and cost effectiveness. This concept will be explored with recycling industry representatives during the meeting(s) described in commercial recycling recommendation 1, above.

4. Methods to Reduce Paper in the Waste Disposal Stream

The panel encourages local governments throughout the state to create incentives to reduce paper in the waste disposal stream. Results of the statewide waste characterization study should be used to aid local governments in identifying the types of paper that could be reduced as well as used in measuring future progress. Methods to reduce paper in the waste stream could include providing technical assistance to businesses, identifying recycled paper users and recycled materials that are in demand, and developing alternatives to disposal. After five years, a review of the amount of paper remaining in the waste stream should be completed. Unless there has been a significant reduction in the amount of paper disposed, strong measures to divert paper from the waste stream should be implemented.

Funding and Resources

Resources needed to implement these recommendations will focus primarily on local governments. In addition to the redirection of some existing local program resources and coordinating with Ecology and industry groups, it is also recommended that the Legislature authorize local governments to retain some locally-collected tax revenues to fund local commercial recycling promotion programs. The panel encourages jurisdictions to seek creative ways to fund commercial recycling technical assistance through existing revenue structures or graduated disposal rates.

Increased Efficiencies in Residential Recycling

Residential recycling programs have matured over the past decade in Washington and today over 91 percent of the population has access to some kind of recycling facility or curbside program. In 1999, over 100 cities and counties offered curbside collection of recyclable materials while an increasing number are offering curbside collection of yard waste. Cities and counties develop their own recycling programs in their solid waste management plans and the Utilities and Transportation Commission is responsible for establishing rates.

Several local governments in western Washington have taken steps to improve the efficiency of their programs. The City of Olympia instituted a new system in 1998, and during the first six months of the new system, saw 452 more tons of recyclables collected than in the same period the previous year. The city also collected 121 fewer tons of garbage. The City of Tacoma's new program dramatically increased participation rates by an estimated 75 to 85 percent, and the amount of collected recyclables increased by 200 to 300 percent. The City of Seattle is implementing a curbside program in April 2000, which it hopes will increase its recycling rate by adding new materials and delivery containers for everyone. Improvements in efficiency, such as co-collection trucks and changes in frequency of collections are keeping costs down and reducing the number of collection vehicles on city streets.

In eastern Washington, the City of Yakima conducted a pilot curbside recycling program in 1998 to determine whether a full-scale curbside program would be feasible. The City found that a curbside program would not be feasible due to the need to subsidize the program, provide incentives to encourage participation, and the impact of rising and lower market prices, and decided to maintain its drop-off facilities. Other factors such as cost-effectiveness of services in a large geographical and low population area and ample disposal capacity make implementing curbside programs in rural areas of the state more difficult. Today, cities with populations of over 5,000 that do not have curbside collection programs, are located in central and eastern Washington.

Findings

- It may be necessary to apply different approaches to residential recycling programs in rural and urban communities.
- It may be that barriers exist for local governments to apply innovative collection approaches to their recycling programs.
- The current rate-setting structure may not provide enough incentives to private haulers to seek out the highest-end market for recyclable materials.
- Residential curbside program participants need to be continually educated about the collection services and what materials can be recycled.
- Some jurisdictions have successfully implemented residential rate structures, which incentivize residents to reduce the amount of garbage being collected.

A Model for Improving Residential Recycling

The City of Olympia provides a model example of improvements to their residential recycling program. Currently, 98% of Olympia residents subscribe to the curbside recycling service, and 35% subscribe to the curbside yard waste service. Ways that Olympia makes the collection program more efficient and effective include picking up garbage and recycling on an alternating, weekly basis; expanding curbside recycling to include plastics; implementing an extensive education campaign throughout the development of the expanded residential recycling program; including a multi-family, apartment and condominium recycling program; providing home composting education through the Local Home Composting Partnership; and giving a city-wide 10 percent price preference to recycled materials.

In 1998, the percentage of total waste recycled in Olympia was 47.7 percent. In the last few years, Olympia has reported a decrease in amounts of trash disposed, while the population of Olympia is growing at a rate of one to two percent annually. The City of Olympia believes that this trend "...shows the effectiveness of not only the recycling programs, but waste reduction efforts as well."

The Panel's Recommendations: Increased Efficiencies in Residential Recycling

Residential recycling in Washington has been a great success, and is available to most households statewide. The panel sees, however, additional ways to make residential recycling even more successful and efficient. The panel recommends the following:

1. Identifying and Overcoming Barriers to Improve Collection Efficiency

Ecology should conduct a pilot study designed to discover what barriers may exist for jurisdictions wishing to improve their residential recycling (single and multifamily) collection programs with the intent of capturing more of the recycling stream. This increased capture rate would be the result of improving collection efficiency and convenience of collection for existing materials and/or new materials. There have been local jurisdictions in Washington that have significantly improved the amount of material collected by changing their collection methods, including the cities of Olympia and Tacoma. RCW 70.95.010 requires Ecology to "monitor curbside collection programs and other waste segregation and disposal technologies to determine, to the extent possible, the effectiveness of these programs in terms of cost and participation, their applicability to other locations, and their implications regarding rules adopted under this chapter."

The purpose of the pilot study would be two-fold: to verify or disprove the existence of perceived barriers and to identify other circumstances not currently thought of as barriers to improvement. Such barriers may be financial, regulatory, political, logistical, or community-based and may affect all of or some of the following collection systems: curbside collection by a city, county or franchise, or a drop-off system operated by a city or county. The perceived barriers may include:

- Financial (such as inadequate funds for staffing, planning or operating programs),
- Regulatory (Ecology (such as permitting facilities), local health jurisdictions, Utilities and Transportation Commission and municipalities (such as rate setting), etc.),
- Political (such as elected officials unwilling to support solid waste programs that require additional taxes or impose higher rates on customers), or
- Community-based (such as lack of processing/marketing capabilities or interest/commitment of population).

The study would consist of two parts. Part 1 would be a statewide survey of all jurisdictions and private recyclers, with the intent of getting information from all levels, from collection personnel to planners. As part of this study, an invitation would be issued to all jurisdictions to apply to participate in the second part of the study. Ecology regional recycling coordinators would be used to partner with local government staff and industry staff to seek out in-depth information.

Part 2 of the study would be a pilot program, involving local governments from east/west and rural/urban communities. Selected communities would attempt to improve existing recycling programs with the goal of increasing program yields. Funding for Part 2 could be tied in with the Coordinated Prevention Grant (CPG) cycle administered by Ecology. Advice would be available to the participating communities through a "short-term consulting group" comprised of personnel from local governments and recycling companies who have successfully implemented collection strategy improvements.

The pilot study would evaluate whether or not the perceived barriers are real barriers. This will help to focus efforts to dispel perceived barriers and address real barriers. By developing and implementing program changes, the group should be able to identify real barriers. Finally, next steps to eliminate the identified barriers would need to be recommended.

2. Revenue Sharing Through Commodity Credits

Under the current system, companies that collect residential recyclables in the Utilities and Transportation Commission-regulated areas of the state pass on all of the revenue from the sale of the recyclables directly to their customers through a recycling "commodity credit" adjustment on their residential recycling collection rate. The value of the commodities is reviewed each year and a commodity credit adjustment is made to the residential recycling collection rate. In most cases, there are many marketing options for recyclers when selling their recyclables. In the current system, there is no incentive for recyclers to increase the quantity or quality of materials collected, seek out the highest end use for any particular commodity, or to attempt to sell their material at the very highest market price, since 100 percent of the revenue from the sale of the material is passed back to the customers. Creating a revenue-sharing program where recyclers are allowed to retain a certain portion of the revenue received from the sale of the recyclables would encourage recyclers to collect more, and to seek out the best and highest end uses for recyclables collected in curbside recycling collection programs in regulated areas of the state. This would also benefit other areas of recycling all the way "down the food chain," creating an overall more stable recycling market.

The panel recommends that the proposal to implement a market-sharing plan in regulated areas throughout the state be implemented with a proposed 30/70 split in recycling revenue. The private sector would retain 30 percent of the revenue from the sale of recyclables in any given year, and the remaining 70 percent would be returned to residential customers served throughout the state. The effectiveness of revenue sharing should be evaluated after a three-year implementation period. The Utilities and Transportation Commission should also evaluate the cost impacts to customers at the end of the three-year implementation period. In order to participate in the program, haulers will be required to submit a plan to the Utilities and Transportation Commission and local government to demonstrate how they will use the revenues to increase recycling. An annual report will also be submitted by participating companies describing the effectiveness of their recycling efforts.

The Legislature in 2000 should direct the Utilities and Transportation Commission to provide for this revenue-sharing incentive as part of the next commodity credit analysis. The reason for this legislative directive is simple: the concept of providing an incentive to the private sector to recycle more through a revenue-sharing plan will result in a benefit to all customers served in Utilities and Transportation Commission-regulated areas. Yet, this incentive system does not fit into the Utilities and Transportation Commission's existing model.

Revenue from the sale of recyclables would be considered in the commodity credit-setting process, as opposed to the cost of service process, in order to provide for a true incentive for the private sector to recycle more, and to encourage upgrading of the quality of recyclables in order to receive a higher market value for the material.

3. Residential Incentive Rates

County and cities are encouraged, through their comprehensive solid waste management plans, to establish residential collection rate structures that provide strong incentives for customers to reduce their level of garbage collection service and encourage customers to participate in waste reduction, recycling, and yard waste collection programs. The Legislature should direct rate-setting jurisdictions to set residential rates for regulated franchise haulers that are consistent with the incentive rate structures established in related implementation ordinances.

Funding and Resources

The statewide survey and coordination of the pilot program would require additional functions within the Ecology staff. Coordinated Prevention Grant funds may be a source of funding for the pilot program for local governments.

Increasing Recycling of Organic Materials -- On and Off the Farm

Organic material is a relatively new focus of recycling efforts, but one that holds great potential for reducing the amount of material entering our landfills. Beneficial uses of recycled organic materials include making use of soil nutrient material, as fertilizers, reducing disposal costs, and reducing leachate in landfills. Increasing the health of soil by applying organic materials can reduce the amount of runoff into salmon habitat.

In eastern Washington, landowners are using biosolids application to increase the yield, health, and nitrogen in the soil. For example, biosolid materials from western Washington are applied to agricultural lands on the east side of the Cascades. Private-public partnerships assist landowners with permitting projects, provide soil and water testing, and participate in public education efforts. In other areas of the state, large-scale composting facilities are taking residential and commercial yard waste and creating soil amendments and other marketable materials. However, issues such as traffic, odor, dust, permitting, and marketing have created disincentives for the siting of new facilities.

King County's agricultural waste equals the amount of food and yard waste being generated in the County. This is in large part due to the fact that King County has the largest population of horses in the state. A cross-team approach is currently being implemented to increase the amount of organic materials being recycled, such as on-farm compost facilities, technical guidance to farmers, and research projects. Taking agricultural waste from farms and using it productively for fertilizer and other uses will not only decrease the amount of waste going into our landfills, but also decrease runoff of pollutants into salmon-bearing streams.

Findings

- The benefits of organic material recycling to other environmental issues, such as air and soil quality, and salmon restoration, need to be maximized and clearly explained to the public and decision-makers.
- More information is needed on the potential for organic materials recycling, including potential applicability, costs, and permitting requirements.
- Regulators and health departments should expand their views of wastes to include potential resources.
- Numerous efforts are ongoing throughout the state, however, little coordination is occurring.
- Some jurisdictions have made significant progress on reducing the amount of yard waste entering landfills, which could be duplicated in other areas of the state.

The Panel's Recommendations: Increasing Recycling of Organic Materials -- On and Off the Farm

The panel recognizes opportunities for expanding organic material recycling within Washington, with the potential to divert up to one third of the materials entering landfills and improve the management of agricultural waste. Beneficial use of properly processed organic materials will support industries and efforts such as agriculture, silviculture, restoration, remediation, landscaping, and site development in new construction. Uses of compost and other processed organic materials directly benefit the environment, air and water quality, and fish habitat through pollution prevention, stormwater runoff and water conservation. The ongoing "Soils for Salmon" effort is one example of how better soil management will benefit salmon restoration.

The panel recommends a combination of two primary efforts: a local effort to specifically capture and recycle organics by source category and end use; and a statewide effort to communicate and coordinate the policies and practices across the state. This dual effort is appropriate because organic material recycling is a profoundly local opportunity. The waste materials have too much volume to be transported economically. Likewise, the product finds its best markets close to the source. To be sustainable, transportation costs must be closely managed. The best and most reliable organic materials programs are those that rely on a local recycling loop (from waste generator back to recycled product consumer). On this basis, the state should focus its efforts in support of local solutions. The panel therefore recommends the following:

1. Increase Communication, Coordination, and Integration of Organic Material Recycling at a State Level

The panel recommends that increased communication, coordination, and integration of organic material programs be encouraged to enhance the understanding of organics and the role they play in pollution prevention, stormwater management, water conservation, agricultural production, and materials recycling. This should be accomplished through an Ecology-formed organics cross team where staff and experts from a broad range of government and private sectors, including water quality, solid waste, agriculture, wastewater, soil science, and other relevant interests, regularly communicate and seek opportunities to integrate programs. This cross team would include, but not be limited to, representatives from the Departments of Ecology and Agriculture, the Washington Organic Recycling Council, local governments, the soil conservation service and conservation districts, agriculturalists, and universities. It will be the responsibility of the team, after reaching a clear understanding of the types of organic materials available and how they can be applied for beneficial uses, to recommend solutions regarding specific implementation steps and resources needed for implementation. These recommendations should be made to Ecology within one year. The purpose of this team is to draw on the strong breadth of technical knowledge of the participants to understand, discuss, and suggest to Ecology potential solutions to address the following issues and others as identified by the team:

Using Agricultural Waste Off The Farm

Residue from harvesting wheat, called wheat stubble, is now used to produce "strawboard," patented as Isobord, a strong building material alternative used for furniture and a variety of other interior applications. This use of wheat stubble is a positive alternative to the traditional post-harvest practice of either plowing in or burning off the wheat residue. These practices are significantly expensive to local wheat farmers and pose air quality problems for the region. Production of strawboard is environmentally sound, with minimal emissions.

The Manitoba Isobord Enterprises operation has the capacity to produce 144 million square feet of Isobord, using a projected 200 thousand tons of wheat stubble. The operation began in 1998, when in its first season, 339 thousand bales of wheat stubble was taken in for Isobord production. Over 300 regional farmers participated, contributing wheat stubble from 133 thousand acres of wheat. The variety of uses for Isobord include manufacturing doors, cabinets, shelves, self-assembled furniture, and flooring materials.

The Panel's Recommendations: Increasing Recycling of Organic Materials -- On and Off the Farm

- *Exploring and identifying organic materials available for recycling* – The first step in maximizing organic material recycling is the identification of materials currently being disposed, where those materials are being generated, and what the demand, logistics, and infrastructure requirements include. This will result in quantification, to the extent possible, of the organic materials available for recycling. Specific waste streams to be addressed include commercial food, food processing, yard, agricultural, land-clearing debris, and construction. The team should also prepare an analysis and listing of beneficial and undesirable constituents/characteristics of the product to help Ecology prepare standards for acceptability. This information will be significantly more valuable if it is tracked with other readily available data that are already being collected by other state agencies. For example, the data could be reported with a parallel report of crop lands under tillage, statewide fertilizer use (in tons of nitrogen), acres of new urban development, urban arterial projects planned, etc. Data from clean air authorities for orchard, vineyard, and brush removal, and burning permits will define quantities being burned. This material could be shredded and returned to the soil. Current water quality sampling being performed by irrigation districts in compliance with Endangered Species Act and clean water regulations will document the positive impacts that recycled organic utilization and agriculture will have on irrigation runoff.
- *Goal setting for organic material recycling* – Existing data can be used to establish a baseline of current qualities of organic materials being disposed in landfills and this information should be used for establishing goals for recovery. These data, along with development of costs associated with space utilization of organic materials in landfills, will allow a value to be attributed to developing alternatives and an understanding of the true cost of landfill disposal.
- *Broad input and participation in development of organic material recycling solutions* – There are a broad range of experts, both within Washington and across the country, who can assist in developing organic material recycling recommendations. These groups and individuals should be provided the opportunity to participate, to the broadest extent possible, in the team's development and implementation of the recommendations.
- *Pilot projects and reporting of results* – A pilot program to put a greater amount of organic materials to beneficial uses and demonstrate environmental and economic benefits will help encourage broader application of organic materials. Existing programs, such as King, Snohomish, and Spokane Counties' approaches to biosolids management and research in minimally processed yard debris, could also be used as examples of organic recycling. Information gained from the pilot study should include changes in soil quality, water use, surface water runoff, fertilizer use, pesticide use, herbicide use, crop yield, soil ecology, and costs.
- *Ongoing regulatory barriers* – There appear to be regulatory barriers to wide-scale land application of organic materials. The team should identify these barriers along with potential solutions to ensure that applications of organic materials are encouraged, not discouraged. For example, nearly all organic wastes are considered solid waste by regulations. How the material transitions from solid waste (perceived as a liability) to a product (perceived as an asset) is vague in the regulations.
- *Education programs* – Education is an important component of public understanding and support for organic recycling and should be part of any recommendations. This would include both schools and Master Recycler/Composter programs, using science-based curricula, as well as broader public education.
- *Increased coordination* – Emphasis should be placed on increased coordination between the draft compost quality guidelines database and growers, soil conservation agents, and extension agents throughout the state. This should also include county planning departments, consistent with a statewide program framework. With development of local solid waste plans, jurisdictions should better coordinate with other agencies involved with

The Panel's Recommendations: Increasing Recycling of Organic Materials -- On and Off the Farm

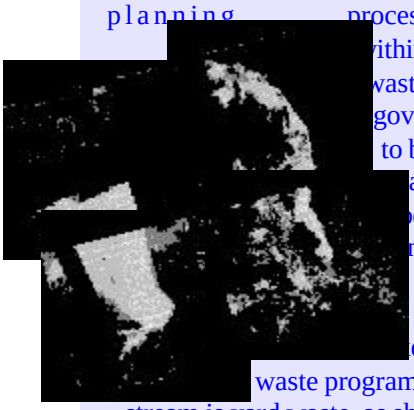
managing organic materials such as conservation districts, wastewater districts, agricultural/crop growers associations, etc.

2. Streamlined Permitting Process

The current Minimum Functional Standards for Solid Waste Handling (WAC 173-404) revisions should be streamlined to encourage on-farm composting using off-farm organic materials. For example, a streamlined process might allow landowners of noncontiguous property to apply for one permit to apply organic material to all of their parcels.

3. Zero Yard Waste Disposal

The panel recommends a statewide policy of zero yard waste disposal be imposed for all yard waste generated, including the residential and commercial sector, within the next ten years. This aims at making better use of yard waste as compost for land application, thereby contributing to soil conservation and waste reduction in our landfills. Alternative means for managing yard waste (best management practices) should be incorporated into the state's solid waste law, such as curbside collection of yard waste, green waste drop-off sites, grinding, mulching, or composting programs. Local governments should then be required, in their solid waste planning processes, to determine how to implement zero yard waste disposal within the next five years. After the implementation of the local solid waste plan and alternate methods for managing yard waste, the local government should determine what quantity of yard waste continues to be disposed in landfills. If an amount remains, then a zero yard waste disposal policy should be implemented. Local jurisdictions will be able to apply to Ecology for an exemption, following the implementation of alternate methods for managing yard waste, based on circumstances such as unavailability of alternatives, funding concerns, market constraints, or other reasons. In addition, an exemption will be granted to jurisdictions having successful yard waste programs if four percent or less of the total disposed municipal solid waste stream is yard waste, as shown by a waste characterization study. Ecology should evaluate the potential uses of Coordinated Prevention Grant funds to encourage implementation of zero yard waste disposal by local jurisdictions.



Funding and Resources

Development and coordination of the cross team would require Ecology staff time. Implementation of the team's recommendations may require funding further in the future, depending on their outcomes. The panel recognizes the limits on resources available within Ecology. In order to complement Ecology's efforts on behalf of the organics cross team, the panel recommends the solicitation and use of private organizations and resources to work in partnership with Ecology to accomplish these efforts.

Recycling Contributions from Construction, Demolition, and Land-Clearing Waste

The construction industry is one of the clearest examples of how a holistic approach to designing and building a new facility can reduce the impact of construction on the environment and increase the state's recycling rate. Rising disposal costs have made the disposal of construction, demolition, and land-clearing (CDL) waste an expensive proposition for the building industry. However, it still comprises up to 40 percent of the municipal solid waste stream and is not tracked as a commodity in Ecology's annual recycling survey.

Members of the panel learned that not only can on-site job recycling significantly reduce the amount of waste entering our landfills as well as construction costs, but also sustainable building practices can increase the use of recycled materials and reduce the amount of waste being generated from a construction project. Benefits of considering recycling and waste reduction in a construction project include conserving materials and resources, increasing the amount of materials being recycled, designing construction waste management plans, promoting local economic development by using local products, rehabilitating existing buildings instead of building new ones, and using tax credits to promote environmentally-conscious construction practices.

There are numerous local government and privately-sponsored projects that promote CDL recycling and sustainable building. In eastern Washington, a public-private effort is using industry members to educate and provide technical assistance to the construction industry on recycling and sustainable building. This includes assisting architects, engineers, and construction managers by visiting their job sites and offering advice on ways to improve on-site job recycling and use of sustainable building techniques. There are also several government-sponsored web sites with information on where businesses can recycle CDL materials, what types of materials can be recycled, tips for sustainable building techniques, and where to go for more information and technical assistance.

Findings

- Barriers to implementing on-site job recycling need to be addressed, such as permitting and disposal costs.
- While it comprises a large part of the waste stream, CDL materials are not being tracked in Ecology's annual recycling survey.
- Further education is needed of architects, engineers, and designers to encourage use of recycled materials in buildings and ensure that recycling takes place on the job site. This includes providing information on how recycled materials can be used and where recycled materials can be taken to be recycled.
- Local governments have little or no resources available to promote CDL recycling at a local level.
- Currently, there is a lack of leadership by state government (agencies, universities) in promoting on-site job recycling and sustainable building techniques.
- Utilization of land-clearing materials on-site would be one way to significantly decrease the amount of materials being disposed of in landfills and transportation costs incurred by construction firms.

The Panel's Recommendations: Recycling Contributions from CDL Waste

In 1996, the EPA estimated that 196 million tons of building-related construction and demolition debris was generated in the United States. That equals approximately forty percent of the municipal solid waste stream. The panel recommends that on state-funded projects the state can increase the recycling rate within the building industry by:

- Requiring recycling during construction, demolition and land-clearing activities.
- Extending procurement guidelines to include recycled-content building materials.

Both of these goals are viewed as important to increase the amount of recycling in Washington, but are only the first steps to improving the performance of buildings. The State of Washington currently oversees over $250 million of construction each year. This presents an important opportunity to take a leadership role in promoting buildings that perform better, are

healthier for occupants, and that cost less over the life of the building. The panel also recommends that local governments consider adopting improved building practices in their construction projects. In support of this goal the panel recommends that the state adopt sustainable building standards and develop guidelines for all state-funded building projects. Specific strategies that support these goals are:

1. Require On-Site (Job-Site) Recycling

The state can encourage recycling by requiring job-site recycling and/or reuse of materials, including consideration of costs and benefits, on all state-funded building projects. The state should include contract language to require recycling and/or reuse, unless contractors demonstrate that, on that job, the costs of recycling exceed disposal costs and other benefits on an individual material basis. The panel recommends that the state specify job-site recycling. Specifications for construction waste management that require job-site recycling have been developed by King County Department of Natural Resources and Seattle Public Utilities, and can be used as models. Minimum requirements of the specifications should include: waste management plan, implementation strategies, and reporting requirements. Minimal reporting of on-site recycling should be required to ensure accountability for recycling rate progress and cost tracking.

2. Expand Statewide Goals for Procurement of Recycled Content Products to Building Products and Materials (Chapter 198, Laws of 1996 (SHB 1231))

The panel recommends that the state require the use of cost-effective recycled-content building materials in state-funded building projects. The Washington State Department of General Administration should expand the procurement guidelines for cost-effective recycled-content products to include building products and materials. Currently, General Administration uses the minimum recycled material content(s) for products and materials as indicated in the current issue of the U.S. Environmental Protection Agency (EPA) product standard (EPA's Comprehensive Procurement Guidelines). The guidelines contain a category for building products and materials. King County also has a resource for recycled-content building products and materials that can be incorporated into the EPA's listing.

3. Incorporate CDL into Waste Characterization

The panel recommends that the state include building-related waste disposed and recycled under a separate category in waste characterization studies completed by Ecology. This will provide a better measure of the recycling rate specific to the building industry.

4. Fund an Information Clearinghouse to Support On-Site Recycling

Solid waste management programs are developed by local jurisdictions. Often local governments find themselves restricted by a lack of resources and would benefit from a "clearinghouse" from which they could gather information and ideas to implement within their jurisdictions. Currently, Ecology utilizes staff resources on both the east and west side of the state to gather and disseminate information on CDL recycling. The panel recognizes and encourages the continuation of this effort as important by providing the resources needed to develop tools that will support local governments unable to develop their own CDL recycling programs. Efforts should be made to ensure local governments are made aware that these resources exist. King County has developed models of successful tools that promote job-site recycling. Tools that are currently in use and should be continued are:

- Statewide directory of CDL recycling haulers and materials processors
- Resource guide for contractors for developing job-site recycling plans
- Case studies of successful CDL recycling projects
- Educational workshops
- Incentives for on-site recycling
- Coordination function to support local jurisdictions around the State.

5. Promote Use of Coordinated Prevention Grants (CPG) for Building Industry Initiatives

Ecology currently offers grants to local governments for use in local recycling programs, including CDL recycling. Ecology should ensure that local governments are aware of this funding source and its potential applications. Examples of an end product are educational materials developed for local construction firms and distributed during the building permitting process.

6. Develop and Implement Sustainable Building Guidelines and Apply to State-Funded Projects

The panel recognizes that the current national trend toward sustainable building practices has moved beyond recycling and the use of recycled-content building materials. Therefore, the panel recommends that the state improve its accountability to the public, while providing national leadership, by adopting sustainable building standards and developing guidelines for state-funded building projects. The sustainable building standards and guidelines will support the state's long-term goals specific to energy efficiency, water conservation and quality, conservation of natural resources, indoor ecology, growth management, and livable communities. Specific to recycling, conservation of natural resources encourages the implementation of waste reduction practices, recycling on the job sites and in the occupied building, and the use of recycled-content products and locally manufactured products. A building rating system called Leadership in Energy and Environmental Design (LEED™), has been adopted by a number of federal agencies, states, counties, and cities and could serve as a starting point for the development of Washington's guidelines. The standards and guidelines should be developed using a multi-interest collaborative process, to build public and private sector support.

Making Sustainable Building a Reality Through Public and Private Partnerships

The U.S. Green Building Council was formed in 1993, and serves as the leading resource on environmental issues for the construction industry. The Council's goal is to build coalitions between industry and government to establish "green building" standards and policies. Membership of the U.S. Green Building Council consists of: product manufacturers, environmental leaders, building and design professionals, retailers, research institutions, utility departments, universities and financial industry leaders. A leading program of the Council is the Leadership in Energy and Environmental Design (LEED ™) Green Building Rating System. This rating system evaluates facilities as a "whole building" over the building's life cycle. LEED standards are "voluntary, consensus-based, and market-driven" based on existing technologies. All segments of the building industry participated in developing these standards, which welcome public criticism. Locally, King County is a member of the U.S. Green Building Council with a specific focus on building practices that protect the endangered salmon of the Northwest.

7. Encourage On-Site Utilization of Land-Clearing Materials

On-site utilization of land-clearing materials would reduce the need for recycling or disposal and should be encouraged by Ecology. The benefits of this would include erosion prevention, wetlands creation, and salmon habitat protection. Through ongoing education programs and the development of guidelines for use by land developers, Ecology should increase the level of awareness about existing practices.

Funding and Resources

Ecology resources would be needed to augment the information clearinghouse on CDL recycling. Portions of CPG funds may be available to local governments to encourage CDL recycling.

Measuring Recycling Performance -- Data Collection and Tracking

The panel found that there is no lack of data on recycling, but often the data that exist may not capture the full picture of recycling and waste reduction and may not be available within a timeframe that is most useful to those in the recycling industry. Currently, Ecology conducts an annual recycling survey to measure the statewide recycling rate. Local governments, haulers, recyclers, brokers, and other handlers of recyclable materials are required to provide information to Ecology on an annual basis, but it is not an enforced requirement. Many local governments conduct their own recycling surveys, track data to meet their own planning requirements, and make that information publicly available. The Waste Not Washington Act also requires Ecology to conduct a waste characterization study every two years. However, due to lack of funding, a waste characterization study has not been conducted since 1992.

Findings

- By not enforcing the requirement that all local governments, haulers, recyclers, brokers, and other handlers of recyclable materials provide timely and accurate information to Ecology, there is a lack of confidence in the results of the annual statewide survey. In addition, at the local level the data are often not usable due to non-reporting by a company that represents a large portion of recycling in that area.
- Waste characterization studies provide useful information both to local and state government such as what recyclable materials are being disposed of in landfills and the effectiveness of existing programs.
- The annual recycling survey tracks materials in the municipal solid waste stream, a narrowly defined group of products. However, since the survey was begun in 1986, industries have changed and grown and commodities, such as CDL materials, have dramatically increased. While efforts are being focused on reducing non-municipal solid waste stream materials, there is no existing method to track the effectiveness of these efforts.
- The 50 percent statewide recycling goal does not fully capture the goals of the Waste Not Washington Act, as there are not quantifiable means to measure waste reduction.

The Panel's Recommendations: Measuring Recycling Performance -- Data Collection and Tracking

With the strong emphasis on waste reduction and recycling, methods are needed to monitor performance. Since 1985, Ecology has tracked statewide performance against the 50 percent recycling goal. The panel, however, sees numerous areas where that information can be better managed to provide timely and accurate reporting to local jurisdictions, state government, and the citizens of Washington. The panel recommends the following:

1. Maintain Aggressive Waste Reduction and Recycling Goals

The Waste Not Washington Act called for an ambitious statewide program of waste reduction, reuse, and recycling. It included a specific goal for recycling 50 percent of the solid waste stream — statewide — by 1995. Implementation of activities to reach that goal varies across the state, but the overall goal of 50 percent was meant to apply to the combined efforts of all counties. Though the goal has not been attained statewide within the specified time, the panel believes it still represents an important benchmark. The panel therefore recommends that the state retain the statewide 50 percent recycling goal, working aggressively to achieve it. There is also recognition that different local areas will have different goals, as established in their comprehensive plans. The panel recommends that those local efforts be supported and monitored by Ecology to ensure progress toward statewide attainment of the goal.

The Panel's Recommendations: Measuring Recycling Performance -- Data Collection and Tracking

The panel also recognizes that waste reduction is an important part of the Waste Not Washington Act and needs to be measured. EPA and other states have attempted to formulate methodologies to measure waste reduction, with mixed results. The panel believes that a qualitative assessment of the effectiveness of waste reduction should be developed, assessing recycling tonnage numbers, reduction in per-capita waste generation, and increased waste diversion from disposal in non-municipal waste streams for beneficial use. These measures, combined with analysis of waste characterization and comparison of data with previous years, will give the best picture of waste reduction statewide. In combination with evaluation of efforts to attain or exceed the 50 percent recycling goal, these measures will provide a good way to assess overall attainment of the goals of the Waste Not Washington Act.

2. Recycling Survey

To assess performance against the recycling goal, Ecology conducts an annual survey of the amount of materials being recycled in Washington. These data are a key component of many cities and counties that use the information to evaluate existing recycling programs and develop new programs. For most cities and counties, the annual survey is the only source for this information, especially for commercial recycling.

The recycling survey is required by the Waste Not Washington Act, but is essentially voluntary, as there are no consequences for non-reporting. Every year some recyclers do not complete the survey, which makes it very difficult for Ecology to accurately calculate the statewide recycling rate goal. The survey is mailed to private recycling companies, local jurisdictions, waste haulers, etc. The current methodology asks that companies that first handle the recyclables report. This methodology helps to eliminate the possibility of double counting, without having to ask each survey respondent to whom the material is sold. Currently, the survey requests amount recycled by material. In addition, the information is requested for residential and commercial categories and also by county and for cities that do their own comprehensive plans.

The panel recommends a number of changes that will increase timeliness and accuracy of survey information, providing the information to local jurisdictions promptly to support their recycling program decisions. The recommendations include:

- Ecology should redesign the current recycling survey instrument to allow flexibility in reporting. This will allow smaller companies to assemble the required data in a timeframe that is compatible with their operations. The specific suggestions are as follows: 1. Design a spreadsheet format that allows for monthly tabulation of the data. This form should be sent at the start of the reporting year. Those firms desiring to track the data monthly can fill out the spreadsheet each month and send it to Ecology at the end of the reporting year. 2. Provide an alternate survey instrument to firms that currently must fill out many pages for only a small amount of information. 3. Enhance and clarify the instructions concerning who has to report, and educate smaller firms on how to fill out the form. 4. Develop an electronic survey form on the Ecology website for monthly and quarterly reporting as an option to annual reporting.

- The survey currently allows for optional reporting of non-municipal solid waste materials such as construction and building debris. Ecology should include the additional material categories in the survey. Other

The Panel's Recommendations: Measuring Recycling Performance -- Data Collection and Tracking

materials that should be considered as additions to the survey, and tracked separately, are biosolids, manure, and major food processing wastes.

- Ecology should provide interim survey results to cities and counties as they are compiled, so that early numbers that are acknowledged as being subject to revision can be made available for interim planning purposes.
- The panel recommends that current requirements for timely and accurate reporting of recycling data be strengthened, with penalties used to enforce reporting. The penalty structure should be modeled after existing structures for non-reporting where a per-day fine is levied for every day the data are late. After the data are received, Ecology would work with the entity that is out of compliance to forgive part of the fine when the data are delivered, and forgive another part of the fine when the data are delivered on time the following year. This encourages ongoing compliance with the reporting requirements. This method has been found to be very effective in other state agencies, and their experience has been that virtually no fines are levied. It is anticipated that the penalty will encourage on-time reporting and result in cost savings for Ecology, which will not be spending resources to ensure compliance, and will result in an accurate calculation of the statewide recycling rate and useful and accurate information being provided to local governments.

3. Waste Characterization Study

The Waste Not Washington Act requires Ecology to conduct a study of the state's waste stream and prepare recommendations every two years. Due to lack of resources, those studies have not been done since 1992. Waste characterization studies provide the state and the waste planning areas with data that show what is in the disposal waste stream. These studies are typically performed at transfer stations and/or disposal sites and involve sampling garbage and classifying it into as many as 60 to 70 categories. The data are used by planning jurisdictions to track the effectiveness of their existing programs as well as to plan for new programs. Waste characterization studies are prohibitively expensive to undertake at the local level for all but a few large planning jurisdictions. There are economies to having the state undertake a study, gather samples from across the state, and provide the information to the planning jurisdictions.

- The panel recommends that a waste characterization study be conducted by Ecology in 2000/2001. This study should be done at least every 5 years so that the information is current enough to be used to guide program decisions.
- The first step in conducting a waste characterization study should be the collection and evaluation of available information from local governments that have completed independent waste characterization studies. These studies should be evaluated for whether their results can be used in the statewide waste characterization study to avoid duplication of efforts.
- Where local governments have not already conducted waste characterization studies, Ecology should perform a waste characterization study to fill remaining gaps, as appropriate, to conduct a statistically valid waste characterization study.
- Ecology should highlight that waste characterization studies are eligible for funding from state grant money.
- Ecology should expand the waste characterization study to include CDL activities.
- Ecology should work with local governments to standardize sampling protocols and materials sampled to support Ecology's effort in compiling a statewide profile of disposed waste.

4. Annual Report

To enhance tracking of progress in recycling and waste reduction, the annual report published by Ecology should contain the following additional elements:

- Both municipal solid waste disposal and generation per capita;
- Results of the survey for additional materials such as CDL materials, and organic wastes;
- Market values of recycled materials;
- Quantification of environmental benefits of recycling; and
- Breakout of curbside recycling data

In addition, the annual report should be used as a part of the information and outreach efforts so that timely, accurate recycling information is available statewide and awareness of progress against statewide goals is raised.

Funding and Resources

Some efficiencies in survey coordination are expected based on these recommendations, though Ecology staff will need to spend some additional time providing follow-up and technical assistance to non-reporters. The waste characterization study will require significant resources, primarily at the state level, but also in added levels of effort for local government employees to provide information. The panel believes, however, that the information to be obtained on waste characteristics is vital to good recycling planning, and strongly supports its funding. Additional funding opportunities should be explored for conducting the waste characterization study, including Ecology resources, and resources of private industry and local governments, acknowledging that some county governments already conduct waste characterization studies at their own expense.

The Panel's Recommendations: Measuring Recycling Performance -- Data Collection and Tracking

Building Long-Term Sustainable Markets for Recyclables

In order to make recycling a success, it is critical that there are products that use recycled materials. Market development takes place on both local and state levels in Washington and requires the participation of the public and private sectors. On the local level, the King County Commission for Marketing Recyclable Materials is a national leader in encouraging consumers to buy recycled products and manufacturers to use recycled products in their processes. Through their 1997 "Buy Recycled" campaign, King County saw an increase in consumer and business awareness about recycled content-purchasing which led to results showing an increase in sales of recycled-content products and packages on average of 21 percent.

From 1991 to 1997, the State of Washington funded the Clean Washington Center, a statewide organization designed to develop markets for recycled materials. Its focus included business development, recycling technologies, product marketing, and policy research and analysis.

Findings

- Barriers have been identified that should be addressed before market development can become a successful link in recycling, including lack of education about recycled products, leadership, regulatory guidelines that require use of recycled-content products, and technical support.
- Without significant state resources and leadership in the area of market development, little or no market development is being accomplished by other public or private entities.

The Panel's Recommendations: Building Long-Term Sustainable Markets for Recyclables

Developing and improving markets reduces rate-payers' costs, creates jobs, protects resources, fosters innovation, and moves our economy toward a more sustainable environment. Market development is integral to the cycle of recycling, which begins with collection at a residence or business, transport of products to a processor, selling of a specific commodity for reuse, and the purchase of that item and its productive use. However, without a concentrated, long-term effort to ensure that markets exist for recycled materials, the use of recycled products is subject to sporadic market demands. The State of Washington has spent significant resources in the past on market development and should continue to do so. A statewide effort is needed with a focus on market development that would directly benefit local businesses, promote economic development where most needed, and implement lessons learned from past efforts. Currently, the state and its industries spend significant resources creating markets for products such as agricultural and manufacturing products; the same commitment should be made to recycled commodities. The panel recommends:

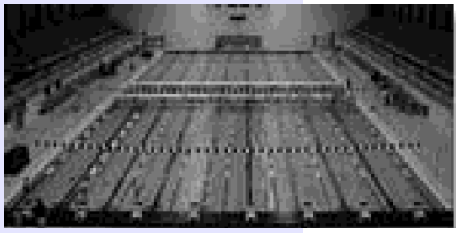
1. Integrating Recycled Materials Into The State's Market Development Efforts

The development of long-term and sustainable markets for recycled products should be integrated into the Department of Community Trade and Economic Development's (CTED) mission and with its ongoing market development efforts. This mission should be implemented through a phased process, with CTED preparing an implementation plan for review and approval by the Legislature during the 2001 session. The implementation plan would determine how to effectively and efficiently accomplish the following:

- Coordinating the promotion of recycled materials with other state economic development activities.
- Comprising a range of commodities, such as paper, glass, tires, plastics, compost, wood waste, and other organic materials.
- Based on the shrinking Pacific Northwest end use market for mixed paper, dedicating resources to explore and develop new and expanded market opportunities for mixed paper in support of all the municipal recycling programs that have engaged their citizens in the recovery of mixed paper.
- Enlisting the support of programs within CTED and other state agencies.
- Addressing and removing regulatory barriers for the marketing of recycled materials.
- Focusing on both marketing of recycled products and economic development opportunities (i.e., attracting sustainable businesses to rural communities).
- Prioritizing efforts based on commodities where the greatest need exists and for areas within the state where the greatest economic development impact will be made.
- Working with local governments, cities, counties, port districts, and school districts to develop markets for recycled materials.
- Coordinating research, development and implementation activities with local universities, agricultural extensions, and the private sector to manage the technical issues related to developing and expanding recycled product use. This will require a sizeable pool of available and flexible funds that can be leveraged with other resources (federal, private sector) to address research, development, and implementation barriers.

Who Say's There is No Glass In the Pool?

The training pool at Fairchild Air Force Base near Spokane offers a unique challenge to the trainees and to the operator of the pool itself. Air Force recruits, loaded down with gear, are plunged into the water in a mock helicopter crash. This presents a problem for the pool operators who continually filter and clean the pool's water. In early 1999, a little over 2 tons of finely ground-recycled glass was installed as filter media. Reports from the base indicate that the pool is operating cleaner than it had been with virgin mined silica sand.



- Sharing data within state agencies to maximize resources and understanding of the existing recycling opportunities and businesses in the state (i.e., Ecology's recycling hotline).
- Maximizing resources by providing opportunity and encouraging industry groups and private sector businesses to participate and partially fund market development efforts.
- Researching existing models in other states and countries for examples on how to implement market development efforts, partner with private industry, and maximize available resources (i.e., Recycling Council of British Columbia, State of New York's market development program).

2. State Focus on Buying Recycled Products

The panel recognizes that many recycled-content products are cost-effective and should be purchased, yet barriers still exist that affect the ability of our recycling programs to close the loop. State agencies and local jurisdictions have enormous buying power and, by increasing their purchasing of recycled-content products, have the ability to make those products more cost-effective and provide leadership to the private sector. The panel recommends that CTED and General Administration (GA) be tasked with:

- Setting progressive requirements and/or goals for state use of recycled and environmentally-preferable products. This will include:
  - Providing specific guidance and information on buying and performance of recycled materials (not just a blanket message to buy recycled)
  - Adding a recycling and procurement goal to CTED and GA's performance measures
  - Convening workshops for other state agencies to emphasize need, approach, and process for recycled product purchasing
  - Establishing an economic preference for recycled materials
  - Pooling their considerable buying power to purchase recycled content materials at competitive prices
  - Logging recycled materials in a resource book for use by purchasing agents and updating this log annually, with an opportunity for qualified vendors to include products on the list
  - Establishing incentives for attaining goals
- Focusing on specifications, requests for proposals and qualifications processes, contractor selection and contract negotiations to remove barriers to recycled products and provide incentives for utilization by contractors and service providers to the state.

3. State Agency Goals for Purchasing Recycled-Content Products

State agencies should set goals for purchasing recycled-content products. In instances where recycled-content products are cost-effective within the state's economic preference, they should be purchased. To establish recycled-content purchasing goals, CTED and GA should convene a meeting of all state agencies at which they will identify their individual goals and how those goals will be met (i.e., what recycled-content products will be purchased). This meeting should be held at the end of each biennium to review whether agency goals were met and what changes should be implemented. To ensure the success of these goals, the panel recognizes that the commitment of top-level management will be essential and encourages the management of each agency to demonstrate that commitment by ensuring that their individual goals are met each biennium.

Funding and Resources

Development of an implementation plan to integrate marketing of recycled materials into the mission and implementation of CTED will require funding. The amount of funding required will be dependent on the plan's outcome and will be provided in part by leveraging other resources (federal, private sector) to address research, development, and implementation barriers. Development of guidelines and goals for purchasing of recycled-content products will require time from existing CTED, GA, and/or other agency procurement staff.

Raising Awareness Statewide -- Information and Outreach

For almost twenty years, Washington's government agencies and industries have taken a proactive leadership role in providing information and outreach to the public and targeted sectors on how to recycle and reduce the amount of waste entering our landfills. From 1983 to 1995, Ecology conducted the "A-Way With Waste" school program, which gave teachers the tools to integrate waste management concepts into their curricula. The benefits of the program included increasing understanding of waste management issues and integrating waste management concepts with other environmental issues. The program is estimated to have reached an audience of 1.1 million students. It is also widely believed that educating children is a tool to reach adults as students often tell their parents what they learned at school. Ecology also conducted an awards program for public schools that encouraged them to implement waste reduction and recycling programs. Decreases in funding have led Ecology to no longer update education materials and the awards program has been dramatically reduced.

Because state government no longer has the resources to implement education and outreach programs, local governments have taken on the responsibility, as funds are available. King County currently conducts one of the most exhaustive education and outreach programs in Washington, which includes providing information to participants in the curbside recycling program and targeting specific audiences, such as gardeners, to increase composting, and retail establishments to reduce waste. King County is also making an effort to integrate messages about waste reduction and recycling with other environmental issues to educate the public about the broader environmental benefits.

In some communities, essential activities such as garbage collection and other public works activities often take precedence over environmental efforts. Local governments are reliant on materials being prepared and distributed by state government. Many local governments continue to use the A-Way With Waste curriculum although it has become outdated and local recycling coordinators are often invited to schools to make one-time presentations on recycling and waste reduction. Information provided to the public generally focuses on promotion of existing programs.

Findings

- There has been no broad statewide campaign emphasizing the importance of recycling and waste reduction. Some feel that these issues have lost their importance in the face of increasing emphasis on salmon protection, water quality, and other environmental issues.
- Many haulers provide educational information to citizens they serve. These materials are prepared in cooperation with local government.
- Ongoing information and outreach efforts are necessary to ensure that recycling and waste reduction remains an important issue to the public and one that they continue to implement. Funding which dramatically increases and decreases each biennium decreases the effectiveness of existing programs and requires high start-up costs each time programs are restarted.
- Information and outreach efforts require different resources in urban and rural communities.
- The state's Essential Academic Learning Requirements provide a structure for public school curriculum and any recycling and waste reduction education material must meet those requirements.

The Panel's Recommendations: Raising Awareness Statewide -- Information and Outreach

The goal of the panel is to identify outreach strategies that will promote positive waste prevention, reduction, and recycling behaviors. The panel believes that every home, school, business, and community should take responsibility for their waste. These objectives can only be attained through long-term and consistent outreach activities. Coordinating partnerships between the public and private sector will increase resources for more sustainable programs, thereby increasing the state's recycling rate.

The Waste Not Washington Act and the Waste Reduction, Recycling and Litter Control Act brought about significant changes in the way Washington citizens handle their garbage. The Waste Not Washington Act called for waste reduction and source separation to become the fundamental strategies of solid waste management and established an aggressive state goal to achieve a 50 percent recycling rate by 1995.

Mandatory areas of study in the public schools, pursuant to Essential Academic Learning Requirements, require that instruction about conservation, natural resources, and the environment shall be provided at all grade levels in an interdisciplinary manner through science, the social studies, the humanities, and other appropriate areas with an emphasis on solving the problems of human adaptation to the environment.

The panel recommends the following:

1. Statewide Waste Prevention and Recycling Outreach

There is an ongoing need for public information and outreach about waste prevention and recycling and its connection to other environmental issues in the State of Washington. Local governments currently have responsibility for teaching their residents about waste prevention and recycling, and should continue to hold this responsibility. However, since the resources of local governments vary considerably, there is also a role for Ecology in helping to maintain a basic level of awareness among all Washington citizens.

The panel supports Washington State Recycling Association's (WSRA) plan to implement a statewide outreach campaign and recommends Ecology work in partnership with WSRA to implement their plan. The panel also supports WSRA's plan to work closely with local governments, waste management associations, environmental interest groups, recyclers, and other interested parties, focused on the concept of waste prevention and recycling. These partnerships should leverage, to the maximum extent possible, the resources of the participating groups. Local governments will have the option of using the outreach campaign in support of their ongoing programs. It is anticipated that the development of a public outreach approach will be completed in one year and coordinated with planned events in 2001, such as America Recycles, Earth Day, the National Recycling Coalition annual meeting, and the WSRA annual meeting.

2. A-Way With Waste School Program

The panel recognizes the value in Ecology updating the A-Way With Waste curriculum, working with Office of the Superintendent of Public Instruction (OSPI) to integrate the curriculum into current teacher training, and illustrating how these activities meet the Essential Academic Learning Requirements. The panel recommends Ecology work with local governments, WSRA and/or other organizations to accomplish these tasks, seeking private sector contributions to provide the funding.

3. Washington Information Education Clearing House

Ecology should create an information/education clearinghouse on a web site that will provide scanned downloadable copies of Ecology and local government recycling printed materials.

This will allow local governments to expand their education and outreach programs, by maximizing use of existing materials. The clearinghouse should include programs allowing adaptation and printing of the materials to suit any recycling programs needs. This clearinghouse should also be coordinated with existing information to avoid duplication of efforts.

The Panel's Recommendations: Raising Awareness Statewide -- Information and Outreach

4. Franchise Haulers Providing Education

The panel supports the Utilities and Transportation Commission staff's current draft proposal that requires franchise haulers to provide information on the full range of recycling and garbage services and methods and programs available to recycle and reduce solid waste being provided to their residential and commercial customers. It is also recommended that the proposed language include encouraging franchise haulers to work with the local governments to ensure information is being provided in the most effective and efficient manner possible.

5. Consistent and Regular Education to Customers

The panel recognizes that it is critical to provide continuous and consistent information to the public about what materials can be recycled. For example, recent data have shown that in the area of paper, constantly changing programs may cause misunderstandings about what materials can be recycled. The panel recommends that local governments regularly update their recycling education programs to maximize understanding of what materials can be recycled and thus maximize the amount of materials being recycled.

Funding and Resources

To implement the recommendation on statewide waste prevention and recycling outreach, sustained funding from the state will be required and is anticipated to be supplemented significantly by resources from private entities.

Minimizing Environmental Impacts -- Product Stewardship

A relatively new concept in waste management is product stewardship, which aims to minimize the impact of a product on the environment. The concept is to ask manufacturers to design products so they are recyclable, and to help create the infrastructure for recycling them. Currently, several local governments are partnering with the private sector to identify products to which this concept can be applied, such as computers, televisions, product packaging, and other household items.

Findings

- Voluntary partnerships between the public and private sectors will be critical to the success of product stewardship.
- Businesses and consumers should be educated about product stewardship and its environmental benefits.
- Important links between market development and product stewardship should be maximized.

Product stewardship is defined as "a principle that directs all actors in the life cycle of a product to minimize impacts of that product on the environment." It is also referred to as "extended product responsibility." The concept is to ask manufacturers to design products so they are recyclable, and to help create the infrastructure for recycling them. This becomes especially important for products made of multiple materials, such as TVs, furniture, and other household items. Some products contain dangerous materials, which are costly for local governments to handle in disposal systems. Product stewardship also suggests that costs of disposal be considered in developing the product, striving to reduce them whenever feasible.

The Panel's Recommendations: Minimizing Environmental Impacts -- Product Stewardship

Efforts are being made by many industries to implement product stewardship in a variety of ways. Throughout the world, computers can now be designed to be disassembled and reused. Rechargeable batteries and reuse of copiers and other office machines are also examples of product stewardship. In the Northwest, manufacturers and retailers are using reusable soft drink crates for transporting inventory, and reducing levels of packaging of products. Used motor oil and paint are collected in various locations for reuse, and in the technical arena, reusable plastic coolers often replace disposable packaging for water sampling.

Product stewardship has potential to increase the recycling rate and reduce waste disposed, adding to the effectiveness of the State's mandate to "reduce, reuse, and recycle." The panel therefore recommends:

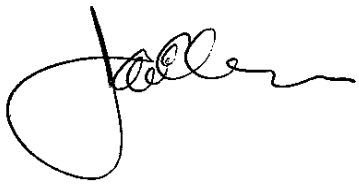
1. Voluntary Information-Sharing Partnership
City, county, and state governments, the private sector, and consumers should work together to share information and become informed about opportunities for increasing voluntary product stewardship to support statewide recycling goals. The Northwest Council for Extended Product Responsibility and its Spring 2000 local conference is one example of sources of information. Other information-sharing opportunities with the legislature should also be undertaken to increase awareness.

2. Pilot Programs and Projects
Public/private partnerships should be sought to conduct voluntary pilot programs or projects, in which product stewardship concepts are applied locally. Input from the private sector should be used to target especially difficult recycling and disposal problems. Results of the pilot programs and the outreach efforts will be evaluated to promote understanding of product stewardship.

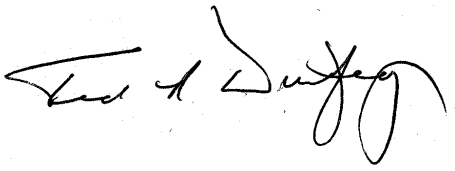
Funding and Resources
No additional government funding is required to support this recommendation.

December 14, 1999

We, as members of the Recycling Assessment Panel, affirm and support this package of recommendations to the Department of Ecology, Washington Legislature, and other relevant entities.

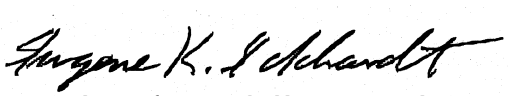


Jan Allen, CH2M Hill



Ted Durfey, Natural Selections Farms

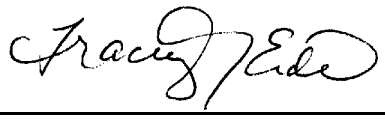
Bill Anderson, Business and Industry Recycling Venture



(* please refer to attached letter in appendix.)

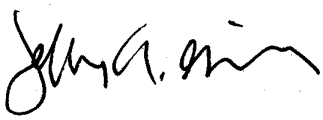
Gene Eckhardt, Washington Utilities and Transportation Commission

Tim Attebery, Washington Food Industry

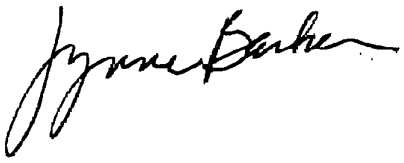


Senator Tracey Eide, Washington Senate

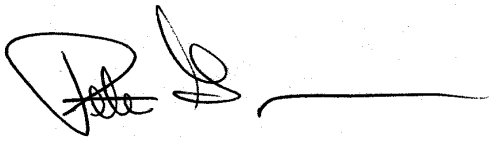
Jennifer Bagby,
City of Seattle Public Utilities



Jeff Gaisford, King County



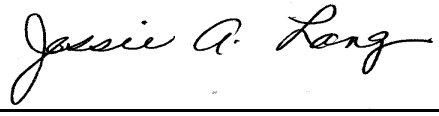
Lynne Barker, Sellen Construction



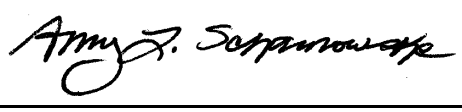
Pete Grogan, Weyerhaeuser

Brian Carlson, Clark County

Don Kneass, Washington State Recycling Association



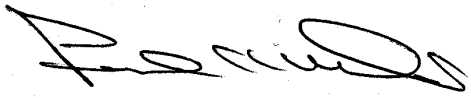
Jessie Lang, Spokane Regional Solid Waste System



Amy Scharnowske, Whitman County

Representative Kelli Linville,
Washington House of Representatives

Cullen Stephenson, Washington Department of Ecology

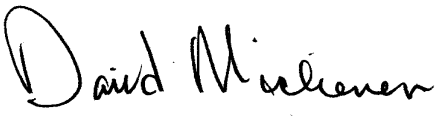


Penny Mabie, City of Olympia

Senator Dan Swecker, Washington Senate

Nancy Malaret, Washington Citizens for Resource Conservation

Lois Young, Skagit River Steel and Recycling

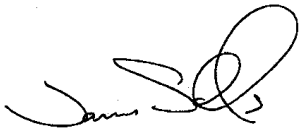


Dave Michener, Washington Soft Drink Association

Loretta Zammarchi, Yakima County

Fred Miller, Tri Vitro

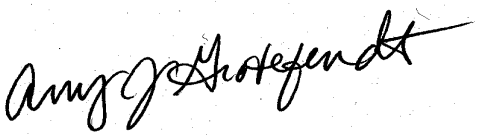
Facilitators



Jim Sells, Washington Refuse and Recycling Association

Patricia J. Serie, EnviroIssues

Susan Robinson,
Waste Management, Inc.



Amy J. Grotefendt, EnviroIssues

APPENDIX

STATE OF WASHINGTON
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
1300 S. Evergreen Park Dr. S.W., P.O. Box 47250 • Olympia, Washington 98504-7250
(360) 664-1160 • TTY (360) 586-8203

December 28, 1999

Cullen D. Stephenson, Program Manager
Solid Waste & Financial Assistance
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7655

RE: Recycling Assessment Panel Recommendations

Dear Mr. Stephenson:

Thank you for the opportunity to participate in the Recycling Assessment Panel. The participants worked hard to develop comprehensive recommendations on many complex issues. I intend to sign the report, but believe two issues require further explanation than appears in the text. I request that these additional views be included as an appendix to the report.

Revenue Sharing through Commodity Credits
The report recommends that solid waste haulers share revenues from the sale of recyclables with ratepayers. The UTC currently allows solid waste haulers to adjust rates annually to reflect commodity prices for the recyclables they collect. If market prices are low, so that haulers are charged to dispose of recyclables, they are allowed to pass those charges on to ratepayers. If market prices are high, so that haulers are paid for recyclables, they credit the revenues to ratepayers. The current system allows ratepayers to benefit from strong markets, while insulating haulers from the risks of market volatility. The recommendation in the report would change the current formula by allowing haulers to keep 30% of the revenue from the sale of recyclables as an incentive to increase recycling and find better markets for recycled materials.

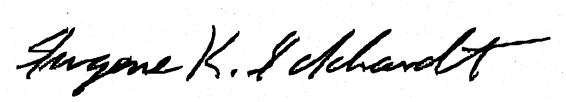
The amount of money involved is significant. If every regulated hauler used the incentive, solid waste customers would pay at least $1 million more per year. To ensure that the incentive actually increases recycling and is not simply additional profit, the report recommends that participating haulers submit a plan for increasing recycling and annually evaluate the results. The report also recommends an initial three-year implementation period. Because of these requirements, I believe that risks to ratepayers are sufficiently limited to make the revenue sharing approach acceptable.

Residential Incentive Rates

The report also proposes to require the WUTC to follow residential incentive rate structures contained in local solid waste ordinances. Currently, the local ordinances are advisory. Under the report's recommended approach, rate design would be decided ahead of and separate from the rest of the rate case process. In our experience, rate design is an area of active public comment during a rate case. If the proposal is adopted, customers wishing to comment on rate design would need to participate in local ordinance proceedings well in advance of being notified of an actual proposal to increase rates. Also, incentive rate designs charge heavier users a substantially higher price as an inducement to reduce use. Depending on the specifics of a rate case, this can disproportionately affect larger families and lower income households, Under the proposal, the WUTC could no longer take these effects into account in designing rates. To ensure that customers will have a meaningful opportunity to participate in decisions that affect them, and to avoid unintended effects, the WUTC and local governments will need to work closely and possibly revise customer notice procedures.

Again, I appreciate the opportunity to participate. I look forward to working with you in the future as these policy discussions continue and as we work to implement any legislative changes.

Sincerely,



Eugene K. Eckhardt
Assistant Director of Transportation and Water